

Graphing Planes in Three-Space

$$Ax + By + Cz = D$$

2 variables the graph is a line

3 variables the graph is a plane

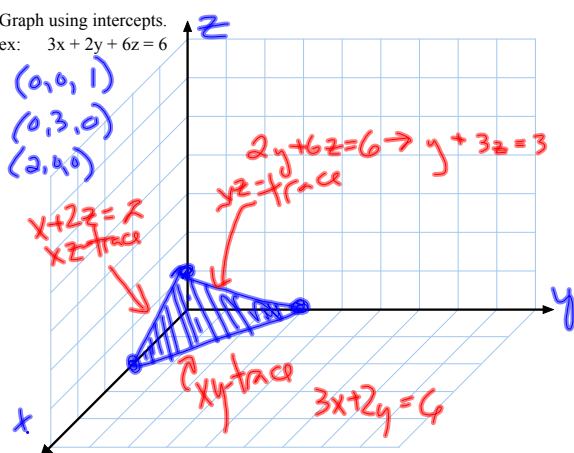
Example

$$2x + 2y + z = 8$$

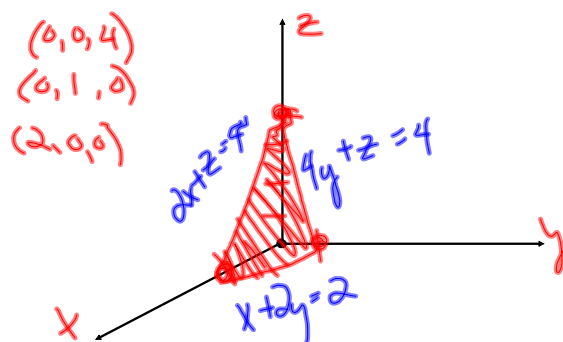
$$\begin{array}{ll} (3, 1, 0) & (4, 0, 0) \\ (1, 1, 4) & (3, 2, -2) \\ (2, 2, 0) & (0, 0, 8) \\ (2, 0, 4) & \\ (0, 2, 4) & \end{array}$$

Graph using intercepts.

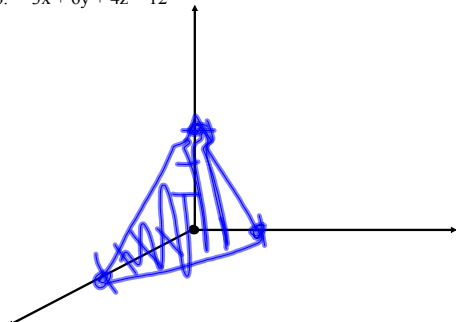
ex: $3x + 2y + 6z = 6$



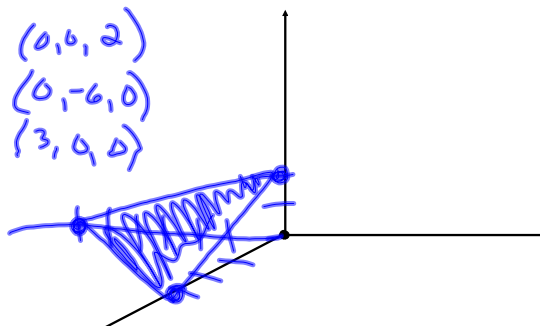
Ex: $2x + 4y + z = 4$



Do: $3x + 6y + 4z = 12$

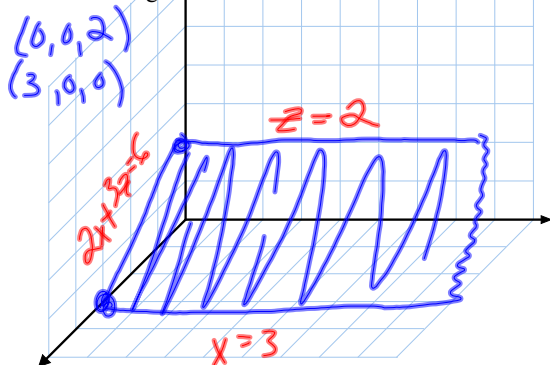


Ex: $2x - y + 3z = 6$

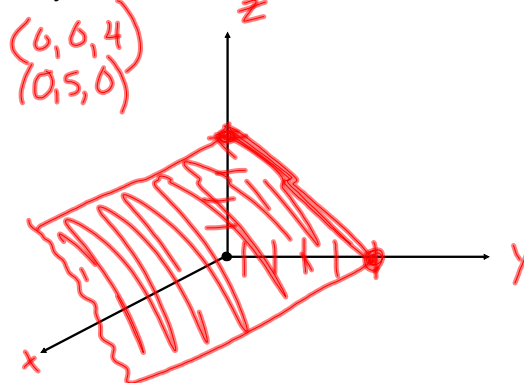


Ex: $2x + 3z = 6$

What's missing?



Ex: $4y + 5z = 20$



Ex: $z = 3$ 